

IN THE CLAIMS:

Please amend Claims 1 and 5-7 to read as follows.

The following is a complete listing of the claims in this application, reflects all changes currently being made to the claims, and replaces all earlier versions and all earlier listings of the claims:

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1. (Currently Amended) A liquid discharge apparatus comprising:
a liquid discharge head comprising a discharge port for discharging liquid;
a liquid flow path communicating with said discharge port having a bubble
generating region for generating a bubble;
a discharge energy generating element for generating thermal energy for
generating the bubble in the liquid inside said bubble generating region;
~~and a liquid discharge head~~ movable member facing said discharge energy
generating element spaced apart from said discharge energy generating element ~~having a~~
~~movable member in which,~~ an end portion of said movable member situated at an upstream
side in the flow direction of the liquid inside said liquid flow path is fixed and a down
stream end ~~thereof~~ of said movable member is a free end;
~~in which ink is discharged from said liquid discharge head and a recording~~
~~is performed by adhering said liquid on a medium to be recorded;~~
~~wherein said liquid discharge apparatus comprises:~~
means for detecting an ink supply state inside said liquid flow path; and
means for controlling or stopping the driving to said discharge energy
generating element ~~when a judgment is made that the ink is~~ partially present in said flow
path and the ink is not normally supplied ~~based on the detection result of the ink supply~~
state inside said liquid flow path.

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2. (Previously Amended) The liquid discharge apparatus according to Claim 1, wherein said means for detecting said ink supply state is a temperature detection means for detecting a temperature rise per unit hour inside the liquid flow path.

3. (Previously Amended) The liquid discharge apparatus according to Claim 1, further comprising a driving signal supply means for supplying a driving signal for allowing the liquid to eject from said liquid discharge head.

4. (Previously Amended) The liquid discharge apparatus according to Claim 1, further comprising a conveyance means for conveying the medium to be recorded which receives the liquid discharged from said liquid discharge head.

5. (Currently Amended) A valve protection method of a liquid discharge head having a heat generating element inside a liquid flow path communicating with a discharge port and a movable plate for directing a bubble growing by a film boiling on said heat generating element to a side of said discharge port,

wherein an ink supply state inside said liquid flow path is detected and the driving to said heat generating element is controlled or stopped when a judgment is made that an ink is partially present in said flow path and the ink is not normally supplied based on a detection result of said ink supply state.

6. (Currently Amended) A valve protection method of the liquid discharge head having a heat generating element inside the liquid flow path communicating with the discharge port and a movable plate for directing a bubble growing by a film boiling on said heat generating element to the side of said discharge port,

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wherein the temperature rise inside said liquid flow path is detected and, when said temperature rise is more than a predetermined threshold value, a judgment is made that an ink is partially present in said flow path and the ink is not in a state of being normally supplied and the driving to said heat generating element is controlled or stopped.

7. (Currently Amended) A maintenance system of a movable member for a liquid discharge system, comprising:

a discharge port for discharging a liquid;

a liquid flow path communicating with said discharge port having a bubble generating region for generating a bubble;

a discharge energy generating element for generating thermal energy for generating the bubble in the liquid inside said bubble generating region; and

~~a liquid discharge head~~ a movable member facing said discharge energy generating element spaced apart from said discharge energy generating element ~~having a movable member in which,~~ an end portion situated at an upstream side in the flow direction of the liquid inside said liquid flow path is fixed and a down stream end ~~thereof~~ of said movable member is a free end, ~~in which by using;~~ and

a liquid supply ~~portion~~ member for supplying the liquid to ~~said a liquid discharge head,~~ the liquid is discharged;

wherein said maintenance system of said movable member for the liquid discharge system; comprises means for prohibiting or controlling the displacement of said movable member based on an ink being partially present in said flow path and a liquid supply failure condition in either of a liquid residual state inside said liquid discharge head or liquid supply state to said liquid discharge head from said liquid supply portion.